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Current trends in illegal drug use and drug related health problems in Switzerland

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Summary

Background and method: As part of the evaluation of the Confederation's measures to reduce drug related problems, a review of available data on drug use and drug related problems in Switzerland has been conducted. Source of data included: population surveys (adults and teenagers), surveys among drug users, health statistics (drug related and AIDS related deaths, HIV case reporting, drug treatments) police statistics (denunciations for consumption).

Results: The aims of reducing the number of dependent hard drug users have been achieved where heroin is concerned. In particular, there seems to have been a decrease in the number of people becoming addicted to this substance. For all other illegal substances, especially cannabis, the trend is towards an increased use, as in many European countries. As regards dependent drug users, especially injecting drug users, progress has been made in the area of harm reduction and treatment coverage.

Conclusion: This epidemiological assessment can be used in the discussions currently engaged about the revision of the Law governing narcotics and will be a baseline for future follow up of the situation.

Key words: drug use; epidemiology; Switzerland

Introduction

At the end of the 1980s, Switzerland witnessed a rapid increase in drug related problems. The increase of heroine consumption; the advent of open drug scenes in several cities; the rapid emergence of the AIDS epidemic among i.v. drug users and their degrading social condition had become increasingly visible. In 1991, the Swiss Federal Council commissioned the Federal Office of Public health to implement *ProMeDro*[1] [1], the first national programme aimed at reducing drug associated problems. These measures are based on a model of 4 pillars (prevention, therapy and reintegration, harm reduction, and repression and control). Their primary objectives are: to maintain and improve the state of health and social integration during the phase of active drug use; to decrease and hinder the entry into dependence; to increase and facilitate an exit from dependence (i.e. to decrease the number of drug users, the main expected outcome).

This article aims at analysing and synthesising – a decade later – the epidemiological situation, the trends in the magnitude and the consequences of illegal drug use in Switzerland with two objectives: to broadly explore if the primary objectives of the programme have been attained[2] and to facilitate an informed discussion among the medical community during the debate about the revision of the Law governing narcotics.

Different issues will be discussed:

a) The prevalence and trends in the use of various drugs (such as heroin and /or cocaine, cannabis and party drugs) in the general population.

b) The magnitude and seriousness of risks and harm associated mainly with intravenous drug use, especially those associated with HIV and Hepatitis, as well as the evolution of the health (including access to treatments) and social condition of heavily dependent drug users in Switzerland.

This analysis is part of the evaluation of the measures the Confederation took in order to reduce drug related problems in Switzerland[3] [2].

1 ProMeDro: Programme de mesures de santé publique de la Confédération en vue de réduire les problèmes de drogue.

2 Irrespective of the causality relationship between the policy of the Confederation and the possible epidemiological changes: this analysis is only one part of the evaluation of the measures of the Confederation to reduce drug related problems in Switzerland

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Methods

To estimate the prevalence of drug use (consequently the number of drug users), different indicators can be used [3] and combined to gain a global picture of a phenomenon difficult to measure due to its illegal character. Direct indicators measure the consumption of drugs as reported by different types of populations in surveys, and allow estimating lifetime and current[4] prevalence. Indirect indicators do not measure consumption directly, but events (such as death or legal consequences) related to the prevalence of drug use.

Data presented in this article originated from various published sources and represent the best available sources in Switzerland[5] until 2000:

a) The cross-sectional surveys including the direct indicators used here are: the Swiss Health Survey (SHS) [4], the survey on HIV/Aids prevention in Switzerland (EPSS) [5, 6] the cannabis survey[6] [7] the Swiss Multicentric Adolescent Survey on Health (SMASH) [8] among teenagers, the Health Behaviour in School aged Children (HBSC [9]) and a regularly repeated survey among severely dependent drug users attending needle exchange programmes (NEP [2, 10]). The main characteristics of the repeated surveys are summarized in Table 1.

The indirect indicators considered here are: the number of charges brought for the consumption of illegal drugs and the number of drug related deaths, both obtained from police statistics [2, 11];

b) To estimate the magnitude and seriousness of risks and harm, social indicators (housing, employment) and health indicators (reported HIV and Hepatitis prevalence, intensity and mode of consumption, number of drug users in treatment) were used. They were obtained from several treatment statistics: ambulatory [12–17] and residential [18–23] services, methadone treatments [24], treatments with medically prescribed heroin [25], HIV/AIDS national statistics at the FOPH [26, 27] as well as from NEP surveys [2].

Table 1

Main characteristics of periodic surveys used in this article.

	HBSC*	SMASH**	SHS***	EPSS****	NEP****
Age category	11–15	16–20	15–74	17–45	all
Population	School children	Adolescents in schools and apprenticeship	Households with fixed telephone	Households with fixed telephone	Dependent drug users visiting needle exchange programmes
N	8700	9000	20000	2800	Variable (around 900)
Sampling	Random sampling of classes	Stratified cluster sampling	Random / random	Random / random	Systematic recruitment during one week
Method	Self completed paper questionnaire	Self completed paper questionnaire	Computer assisted telephone interview (CATI)	CATI	Questionnaire partly face to face, partly self completed
Response rate	85.5% classes, 90% school children	Non response rate 0.3%	64%	Refusal rate 12.5%	69%
Periodicity	4 years	10 years	5 years	irregular	irregular
1st survey	1978	1992	1992	1987	1993
Last survey	2002	2002	2002	2000	2000

* Conducted by the Swiss Institute of Prevention of Alcoholism
** Conducted by the Institutes for Social and Preventive Medicine of Lausanne and Zurich (1992)
*** Conducted by the Federal Office of Statistics
**** Conducted by the Institute for Social and Preventive Medicine of Lausanne

Results

Heroin and cocaine

During the last decade heroin consumption seems to have stabilized or slightly decreased. The repeated cross-sectional surveys among the general population [2] (see figure 1) showed at the end of the 1980s a moderate increase of lifetime "hard drugs" (heroin and/or cocaine) consumption among the population aged 17–30 (3.6% in 1987, 4.1% in 1992). From 1992 to 2000 this proportion has stabilized. Although there is a stabilization of lifetime "hard drugs" consumption since the mid 1990s untill 2000, the trend over the entire period has increased, due to a rise of lifetime cocaine consumption: data from the survey SHS [4] shows that lifetime heroin consumption between 1994 and 1998 followed a slightly decreasing trend while lifetime cocaine consumption was increasing (see below and figure 1).

Current consumption of heroin [4] in the population aged 15 to 39 was stable between the years 1993–98 (0.1%). The difference between current and lifetime prevalence[7] may be attributed to experimentation or consumption over a short period of time.

Not only has the consumption of heroin within the general population diminished but so did drug injection [2] (figure 1). The proportion of people having had a drug injection experience[8] (lifetime prevalence) remained stable between 1987 and 1995 (0.8% and 1% respectively). Since

4 During the last twelve months.
5 There is no selection in the published sources. Other data such as hospitalisation data would be useful but are not available in Switzerland.
6 Conducted by the Swiss Institute of Prevention of Alcoholism in 2000 among the general population aged 15–75.
7 Lifetime prevalence of consumption of a drug is the proportion of persons having ever consumed this drug
8 With any drug.

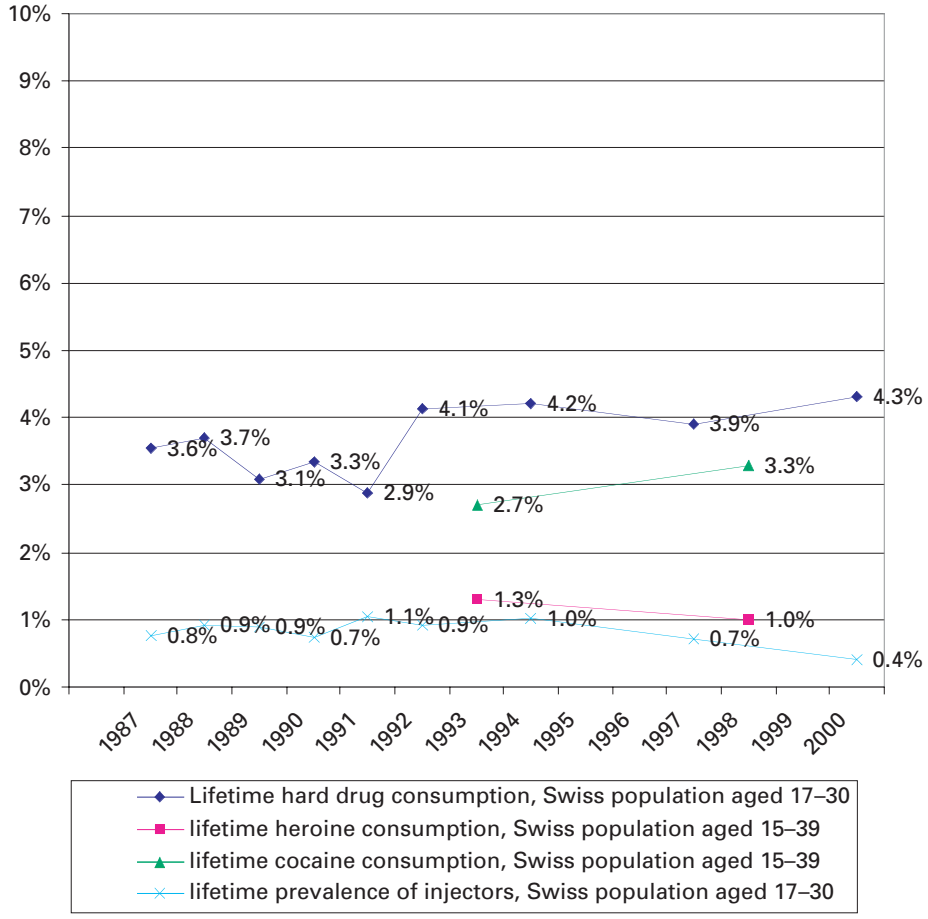

Figure 1

Evolution of heroine and/or cocaine lifetime consumption among the Swiss population (1987–2000) [2].

1995, this proportion decreased from 1% to 0.4% in 2000. A similar trend is observed among regular drug users participating in needle exchange programmes (NEP) [2, 28]. Among them, the proportion of regular heroin consumers[9] has decreased between 1993 and 2000 (63% and 54% respectively) and the proportion of "new" drug injectors (since less than two years) has also decreased: 30% in 1993, 14% in 1996 and 7% in 2000.

As stated, indirect indicators follow a similar trend to that of direct indicators. Since the mid 1990s charges brought for heroine consumption and drug related deaths have decreased [12, 29, 29]. Statistics gathered from entries into treatment and surveys undertaken on users of needle exchange programmes (NEP), either show an increase or a stabilisation of the average age of heroin users and a decrease of the proportion of current users (less than two years of use). This suggests there is a decrease of heroin dependent users (fewer newcomers) and an increase of patients retained in treatment.

Estimates on the number of regular heroin users have been made based on the triangulation of different direct and indirect indicators, such as data gathered from cross-sectional surveys, drug related deaths, denunciations for heroine consumption and treatments. In 1990–1993 the number was estimated at around 30,000 and in 1997 this number was estimated at 28,000 [30, 31].

Lifetime cocaine consumption among the population aged 15–39 increased from 2.7% to 3.3% between 1993 and 1998 [4] (figure 1). Current consumption in the same population and over the same period remained stable at 0.4% [4]. The difference between lifetime and current consumption suggests that a part of cocaine consumption is experimental.

Surveys among users of needle exchange programmes (NEP) [2] show that the proportion of cocaine or cocktail (heroin and cocaine simultaneously) users has increased from 1993 to 1996 (31% and 37% respectively) but decreased in 2000 to 27% and 25% respectively. The average number of drug injections per week also decreased (18.9 in 1993 and 13.7 in 2000). Charges brought for cocaine use have been on the decline since the end of the 1990s (10,515 in 1997 to 8206 in 2001). These two different trends suggest that cocaine use as a recreational substance may have increased in the general population while consumption decreased among the heavily dependent drug users.

Cannabis

Trends and the different data relating to cannabis consumption are very clear. Cannabis consumption has increased sharply since the beginning of the 1990s among the general population; this increase is clearly perceptible among young people aged fifteen. The average age of teenagers consuming cannabis has decreased (average age of first consumption decreased from 16.5 in 1992/93 to 15.8 in 1997/1998 [32]) while the

9 Several times a week.

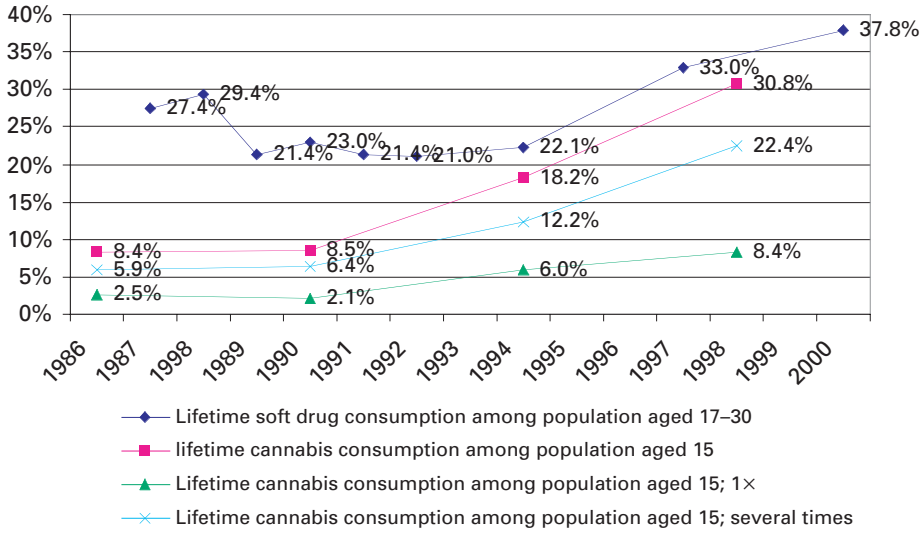

Figure 2

Evolution of soft drugs/cannabis lifetime consumption among population aged 17–30 and pupils aged 15 in Switzerland, 1987–2000 [2].

quantities consumed have increased. Since 1990, surveys among pupils aged fifteen (HBSC) (see figure 2) showed a high increase of lifetime cannabis consumption, which has more than tripled between 1990 (8.5%) and 1998 (30.8%) [4]. The last available data collected in 2002 among pupils 15–16 years old showed a continuation in the increase in lifetime prevalence of cannabis consumption: 49.9% among boys and 39% among girls [33].

Through an observation of lifetime consumption in the population aged 17 to 30 (EPSS) [2, 6], one sees more precisely the recent increase. This increase is of lower amplitude as compared to consumers aged 15. It is only during the mid 1990s that the proportion of lifetime cannabis use in this age group grew from 22.1% in 1994 to 37.8% in 2001. The variation between these two curves (adults vs. pupils) is mainly due to a generation effect, since the recent increase of lifetime cannabis consumption among the 17–30 years old seems to be attributable to the increase in the youngest. This observation is confirmed by a recent survey realized in 2000 detailing cannabis consumption [7]: lifetime prevalence of cannabis consumption is lower in older ages (44% of those aged 15–19; 59% for those aged 20–24; 35% for those aged 25–44; 15% for those aged 45–59).

Concerning the frequency of cannabis consumption, one observes that two thirds of the cannabis consumption among teenagers declared in 1998, was repeated use [4]. The survey realized in 2000 [7] among the general population confirms this result, 6.5% of those aged 15–19 consume cannabis every day and an other 5% at least once a week. This survey also confirms the inverse relationship between current consumption of cannabis and age. The proportion of current cannabis consumption is 24% for the 15–19 year olds and 28% for the 20–24 year olds. This is in sharp contrast to the 10% found between 25–44, and 4% for 45–59. One can once again talk of both a generation and an age effect: the previous generation, when aged 15 consumed less cannabis, hence fewer lifetime consumers and a cessation of consumption with age may have been recorded.

Indirect indicators confirm the observed trends; charges brought relating to cannabis use continue to increase, particularly during the last 10 years, in spite of a more liberal environment regarding cannabis use in some parts of Switzerland [11, 29]. This increasing upward trend may in part be explained by the fact that certain cantons have a more repressive policy, as compared to others; this is the case in French speaking Switzerland, where we see a higher number of consumers.

Party Drugs, designer drugs (ecstasy, amphetamines, hallucinogens …)

Data concerning these drugs are of bad quality as: the classification of substances from one survey to another differs; new substances and denominations of these substances are constantly evolving. It is therefore very difficult to know and identify the evolution of these drugs within society. The cross-sectional surveys among the population aged 15–39 show that lifetime consumption of stimulants and hallucinogens ranged from 1 to 4% in 1997/98 [4].

Two surveys were undertaken among young people attending rave parties in Switzerland [34, 35]. These surveys concerned a restricted population mixing with the techno scene but did however allow identification of consumer characteristics and modes of consumption. These surveys do not inform us of the prevalence of consumption. The results of these different surveys are: the level of consumption of different substances is high and the people who frequent the techno scene are poly-users. Half (52%) of that population had consumed ecstasy and one third (33%) of ravers when asked were consuming this substance during the survey. Almost all (94%) of ecstasy users had tried other illegal drugs during the last twelve months; 64% of ecstasy users had already consumed cocaine, 38% LSD, 14% heroin and 90% cannabis. Seventeen percent of the same population used ecstasy once a week or more. As a general rule, ecstasy

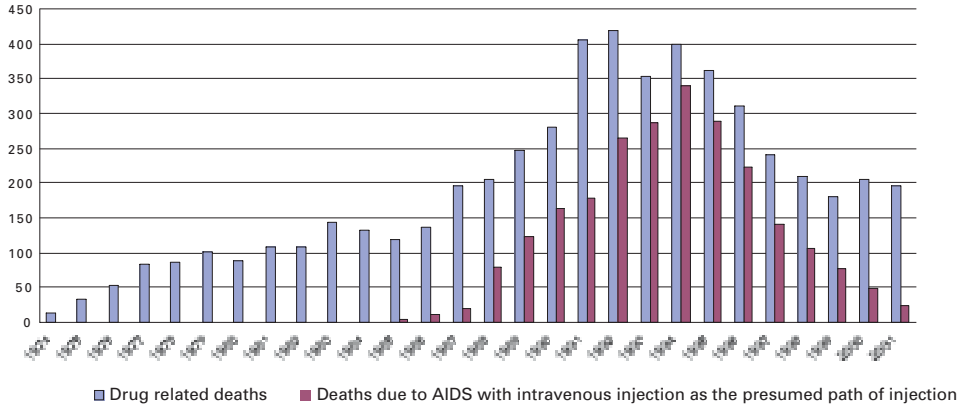

Figure 3

Evolution of drugs and AIDS related deaths in Switzerland, 1974–2001 [2].

users are socially integrated and use the drug recreationally. The average age of first consumption of ecstasy is 18 years old.

Health problems related to heavy drug use

When evaluating the state of health of consumers and the seriousness of consumption, one must place a greater emphasis on the more dependent consumers of heroin and/or cocaine. The data presented below were gathered from: surveys among users of needle exchange programmes, statistics relating to entries into treatment, data from the HIV notification system and police statistics.

The state of health of dependent drug consumers is generally improving. The number of newly reported HIV cases among i.v. drug users has greatly decreased between 1989 (approximately 400 reported cases) and 2001, and seems to have stabilised (approximately 50 reported cases [36]). In the surveys among NEP attendees and in statistics of those undergoing treatment, the reported HIV prevalence has remained relatively stable, or has decreased slightly (between 5% and 11% during past years according to the source of data). The prevalence of HIV has remained relatively low compared to that of Hepatitis B and C, which are very high particularly among those visiting needle exchange programmes. In 2000, 59% of needle exchange programme clients reported having been tested positive once for Hepatitis C and 40% for Hepatitis B [2]. In the statistics relating to entries into residential treatment, between 1997 and 2000, the same indicator shows a prevalence of approximately 40% for Hepatitis C and between 22% and 28% for Hepatitis B [19–22].

Surveys undertaken in Switzerland among users of needle exchange programmes (NEP) [2] enabled us to evaluate the risks of contamination associated with both HIV and Hepatitis amongst drug users. The average number of drug injections per week has decreased (18 in 1996, 14 in 2000), but important regional differences still exist. However, a small recent increased risk of HIV transmission among drug injectors was observed: the proportion of users who have shared syringes during the last 6 months increased from 9% in 1994 to 12% in 2000. Other forms of risky behaviours linked to intravenous drug use such as the sharing of spoons, filter and water have decreased since 1996, but remain high when considering the risks associated with the development of Hepatitis C (sharing of spoon during the last 6 months: 68%in 1996 and 51% in 2000; sharing of filter: 46% in 1996 and 38% in 2000). This could help explain the relatively high rate of Hepatitis C. Risk behaviour during sexual relations has remained stable over time. The rate of condom use with occasional partners is comparable to that found among the general population (in 2000, 72% used a condom consistently). However, the rate of consistent condom use with the stable partner (in 2000 only 29% had always used a condom with a stable sexual partner) is still unsatisfactory given the fact that HIV seroprevalence among drug users is high and surveys show that drug users often have non-drug taking sexual partners.

Drug related deaths have decreased between 1994 and 2001, stabilising at 200 deaths per year since 1998 [11, 29]. The number of HIV related deaths has also decreased over the same period, primarily due to the arrival of antiretroviral treatments (figure 3).

The number of people in treatment has continued to increase. Since the end of the 1980s untill the beginning of the 1990s the number of methadone substitution treatments has considerably increased (2000 treatments in 1987 and 14,000 in 1994). Until 1996 the situation remained stable, probably due to the development of medical prescription of heroine. Since 1997 the number of methadone substitution treatments again increased (in 2000, 18,393 registered treatments) [1, 24]. Figure 4 graphs the evolution of the number of methadone treatments in the different cantons between 1993 and 2000. When reporting the number of those undergoing treatment among the population aged 20 to 64, the cantons of BS, GE and NE retained the highest rate: respectively 8.86, 6.6 and 6.51 per thousand people. Other types of treatments have also increased during the last decade, currently approximately 1100 drug users are treated with medically prescribed heroin [25] and 1000 places are currently assigned for treatments in specialised residential structures [37].

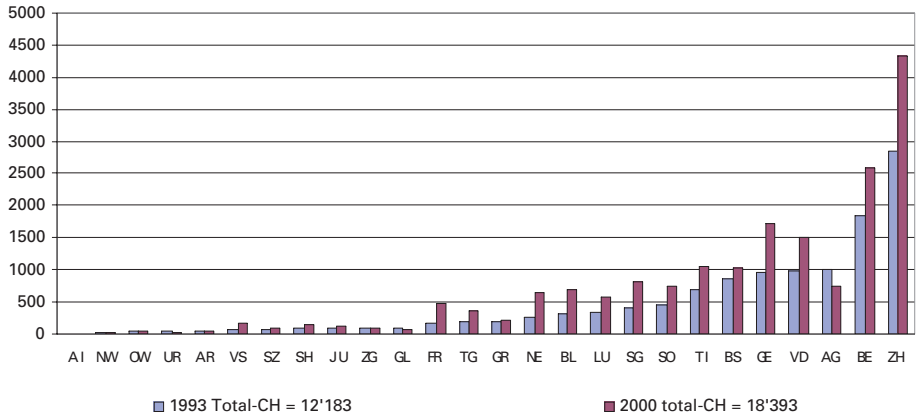

Figure 4

Number of methadone treatments per canton in Switzerland in 1993 and 2000 [2].

Social situation of dependent drug users

The social situation of dependent drug consumers is drawn from employment, income and housing information collected from the statistics of entry into various treatments or in surveys conducted in needle exchange programmes (i.e. these data are related to heavily dependent drug users, generally injecting drugs).

Housing conditions have slightly improved, with a decrease of homeless drug consumers (12% in 1993 and 10% in 2000 in needle exchange programmes; 10.1% in 1995 and 4.6% in 2001 in the statistics of entry to residential treatment). The number of people benefiting from social welfare / social aid has increased, as well as the number of those benefiting from social insurance, such as invalidity insurance and unemployment insurance (in needle exchange programmes beneficiaries of social insurance were 22% in 1994, 27% in 1996, 29% in 2000 [2]). On the other hand the proportion of people declaring illegal income (primarily through deals) has decreased. Access to employment has not improved over the last years, with 59% of drug users in needle exchange programmes and 42% of entrants into residential treatment being unemployed. Dependent drug users may have a greater accessibility to the social security system, hence, they experience fewer social problems, but they certainly still have problems attempting to take positive steps towards social reinsertion, particularly with regards to the work environment.

Discussion

Data allowing an estimation of the evolution of the prevalence and of the varying modes of consumption of different substances are primarily drawn from surveys conducted among the general population, particularly among the youth, young adults and consumers themselves. The precision of these estimates is subject to several biases. Declaration bias may occur: the fact that the substances under scrutiny are illegal may induce under or over declaration by the user due respectively to voluntary caution or provocation. Moreover, declaration bias may change over time. For example part of the increase in cannabis use may reflect an increasing number of persons admitting cannabis use (change in the social norm). Another source of error may originate from the small samples (large confidence intervals) and scarcity of the phenomenon (heroin and cocaine consumed). It is also likely that a part of severely dependent drug users having no private home are not represented in the surveys. However, these biases affect mainly the magnitude of estimates, and their impact on the reliability of trends is limited [1, 38] because data collection conditions do not change from one survey to another. Moreover, the triangulation of data collected from regular statistics (such as deaths, treatment and police statistics) and from other sources allows us to validate the main evolutions. International comparison offers another way of validation and contextualisation of trends.

A stabilisation or a decrease in heroin use and drug injection is currently observed in the general population and among regular drug users. European countries [38] have the same difficulties as Switzerland in estimating the evolution of heroine use. Data collection is not standardised and national data are not directly comparable. Nevertheless, similarly to that of Switzerland's, heroin consumption in the UK and France seems to have stabilised or decreased.

On the other hand the consumption of cocaine seems to have increased slightly, especially for recreational use. This increase of cocaine use is also observed in other European countries [38]. In France between 1995 and 1999, lifetime prevalence of cocaine use among the male population aged 18–44 increased from 2.8% to 3.7%. In the UK, lifetime prevalence of cocaine use among the population aged 16–29 increased from 6% to 10% between 1998 and 2000.

Difficulties in obtaining data for the use of party drugs is also evident in other parts of Europe,

though certain trends do seem to be emerging. An increase in the use of recreational drugs (party drugs) occurred in the early 1990s, particularly in the United Kingdom, Germany and Spain (prevalence of lifetime use among 18–59 year-olds: 9%, 3% and 2% respectively). In these countries, the situation seems to have stabilised around these figures in recent years. Elsewhere, we are seeing an increase in use, particularly among young people (18–25 year-olds). The general population surveys reveal a prevalence of lifetime use in most European countries of between 1% and 4% (3% in the case of France in 1998, 1% in Finland and Sweden) [38–40]. A European study performed in techno circles in Berlin, Amsterdam, Vienna, Prague, Madrid and Zurich revealed high levels of use of legal and illegal substances among young people in 1996. Two years later, however, a decrease in drug use (in terms of frequency, volume, number of substances) was observed in the same groups. This was ascribed mainly to bad experiences (or fewer positive experiences) with the substances concerned, incompatibility between drug use and lifestyle changes, and other social factors [41]. These different tendencies observed in Europe may suggest that the diffusion of synthetic drugs is not infinite and that saturation may occur.

Regarding cannabis, various studies showed an impressive increase in the frequency and quantity of consumption, essentially in the younger population, with an earlier onset of use. Cannabis use has also increased in most European countries since the beginning of the 1990s [38]. Lifetime consumption of cannabis among the general population is highest in Switzerland, Denmark and the UK. Among teenagers aged fifteen, an increase in lifetime consumption is also observed in most European countries.

The definition of a risky consumption of cannabis remains tricky: at the collective level, the meaning of the use of psychoactive substances undergoes timely and cultural variations; at the individual level, the patterns of consumption fluctuate during adolescence in the sense of an improvement or worsening of the situation. It is thus difficult to decide at which point cannabis use becomes worrisome [42–44]. The most serious – although rare – negative consequences of cannabis use usually discussed are an increase in the occurrence of severe mental health problems in youth (such as depression or schizophrenia), as well as an increase in traffic accidents under the influence of cannabis. In the literature there is evidence of a link between cannabis consumption in adolescents and occurrence of psychiatric disease [45–48]. However, "whether the use of cannabis triggers the onset of schizophrenia or depression in otherwise vulnerable people or whether it actually causes these conditions in non-predisposed people is not yet resolved" [49].

The state of health of dependent drug users over the last 10 years has improved. The number of HIV cases as well as the number of drug and AIDS related deaths have diminished. The frequency of drug injection and the use of condoms have remained stable. The proportion of needle exchange programme users who have shared syringes during the last 6 months slightly re-increased in the last years (12%), however this proportion is still one of the lowest recorded in European needle exchange programmes [38]. Other forms of risk behaviour (sharing spoon, cotton, water), though still high are lowering. Prevalence of Hepatitis C infection remains high, hence the importance of the need to develop prevention among high-risk users and maintain Hepatitis testing and Hepatitis B vaccination.

The treatment of drug consumers is also in progress, with the numbers requiring treatment continually increasing. In total, more than 50% of dependent drug consumers undertake treatment, which in comparison to other European countries remains one of the highest rates [38].

The social situation of the regular consumer is generally improving slightly, with a decrease in the number of homeless and of people declaring illegal sources of income, and an increase in the proportion of people benefiting from social welfare. However, social reinsertion particularly the development of accessibility to employment must improve.

This synthesis of available data on the drug situation in Switzerland and the analysis of current trends was part of the assessment of the drug policy of the Confederation. However, this type of analysis alone is not sufficient to discuss the effectiveness of this policy and any causality interpretation performed only on this basis should be avoided. The Confederation's objectives of stabilisation or reduction in the use of drugs have been attained for heroin, but not for the other illegal drugs which are on the increase as in many European countries. Notable progress has been made with regards to risk reduction in the health and social domains, as well as in treatment coverage. This epidemiological assessment can be used in the discussions currently engaged about the revision of the Law governing narcotics and will be a baseline for future follow up of the situation, especially for the assessment of the effects of the new Law.

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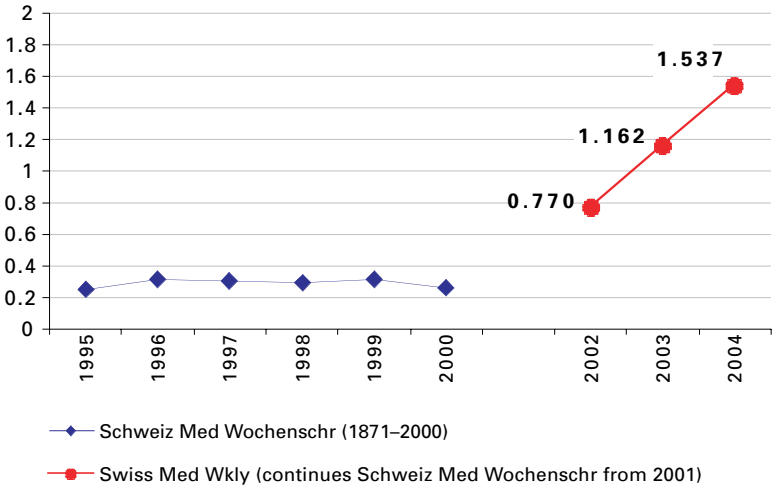

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